A Walking Tour of Rocks, Minerals & Building Stones of Prince Street, Truro

Nova Scotia Department of Natural Resources
Mineral Resources Branch
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Walking Tours - A Look Into the Past

Truro's central location in the Province has made it the hub of Nova Scotia. Based mainly on agriculture, forestry and transportation, Truro has grown and prospered since the arrival of the first settlers.

Prince Street buildings reflect the prosperity and economic development through the choice of rocks used for building stones and the architectural style of the buildings. Rocks from local Nova Scotia sources provide a link to the long and interesting geological history of the region.

This walking tour is a co-operative project between the Truro Parks and Recreation Commission, the Colchester County Historical Society and the Department of Mines and Energy. It is one of many projects supported by the Public Information Program of the Canada-Nova Scotia Mineral Development Agreement (CNSMDA). This Agreement provides the means through which the federal and provincial governments stimulate the development of Nova Scotia's mineral industry.

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Truro - The Hub of Nova Scotia

Truro is a crossroads of transportation and communication in Nova Scotia with a long history of settlement. The first Europeans in the area which were Acadians who settled in the Cobequid district in the early 1700s. Following their expulsion by the British in 1755, English settlers from New England and the British Isles began colonizing the area. By 1760, the name had been changed from Cobequid to Truro and a permanent settlement established.

The town expanded and was incorporated in 1875. With the completion of the Intercolonial Railway (predecessor of Canadian National Railways) in the 1880s, Truro became a railway division point and an important distribution centre. It has continued to thrive and its population is now more than 12,000. Today, Truro is the county seat of Colchester County.

The fertile, well-drained and sandy soils developed on the upland slopes of the Salmon River Valley support a variety of crops and animals. Agriculture is further aided by the moderating climatic effect of the Cobequid Highlands to the north and the Minas Basin to the west.

In the past, the forests supported the region's thriving lumber and shipbuilding industries. Today, lumber and pulp operations continue to use the forest resources of the Truro area.

Photos: (Not presently available)

Front Cover: First United Church. This building is constructed of local sandstone and brick from clay sources. These materials are typical of what is used in many Nova Scotia buildings. (Photo: M. Devanney)

Saint John Anglican Church. The church is built from tan and pink Wallace sandstone and capped with a grey and green slate tile roof (inset). The black staining on the stone is due to air borne pollution. (Photo: B. MacBournie, Inset phot: M. Devanney).

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History in the Rocks - Steppingstones to the Past

The Rock Record

The Truro area has experienced a long, fascinating geological history spanning 400 million years. Over this time, the record in the rocks indicates the collision of crustal plates, mountain building, deposition erosion and glaciation.

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The Ancient Appalachians

The record begins with the formation of the ancestral Appalachian Mountains approximately 380 million years ago (m.y.a.). The collision of two crustal plates - one including what is now northern Nova Scotia and the other southern Nova Scotia - along the Glooscap Fault System, initiated a period of mountain building. The Cobequid Fault, just north of Truro, is part of the Glooscap Fault System and was as significant to this area as the present day San Andreas Fault System and was as significant to this area as the present day San Andreas Fault is to southern California.

Heat from the collision melted some of the rocks at the base of the crust. The resulting molten rock moved upward, cooled and crystallized into the igneous rock, granite. This hard, resistant rock underlies many of the areas of high ground in the Province.

After the mountains were created, they were attacked by frost, wind and water. Gradually they were eroded and the resulting mud and sand were moved and deposited by streams, approximately 360 m.y.a. Later the soft sediments were compressed into the sedimentary rocks shale and sandstone. These rocks, which are now called the Horton Group by geologists are well exposed in Lepper Brook Gorge, Victoria Park.

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Inland Seas and Coal Forests

Subsidence of the land about 350 m.y.a. allowed inland seas to cover much of Nova Scotia. In the hot and dry climate, limestone and evaporites such as salt, gypsum and anhydrite precipitated from these seas as the water became saturated. The limestone of Penny Mountain, north of Truro was formed in this manner.

In contrast, the coal measures of the Province formed in hot and humid conditions more than 320 m.y.a. Vegetation flourished in this climate. After it died and accumulated, it was compressed into coal. Associated with the coal are sandstones that have been quarried for building stone.

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The Age of Dinosaurs

The lowlands along the Minas Basin shore and the Salmon River Valley are underlain by soft, non-resistant sandstones and shales of the 220 million years old (m.y.o.) Wolfville Formation. Most of Truro lies on this Formation. The sandstones and shales were formed from river deposits of sand and mud in a rift valley when southern and northern Nova Scotia were being pulled apart during the early formation of the Atlantic Ocean. The thick basalt flows at Five Islands and Cape Blomidon were formed by eruptions of lava onto the floor of the rift valley. Sandstones of similar age, found near Parrsboro, contain important fossil dinosaur bones.

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The Advance of the Glaciers

The last event in the rock record is the ice age which began more than 100,000 years ago. The Truro area was periodically covered by mountains of ice as the glaciers advanced and

retreated. By 10,600 years ago, the ice had retreated enough to allow nomadic people to camp in the Debert area.

Erosion and deposition by the glaciers produced many of the present day landforms in the Truro area. The soft, red shales and sandstones of the Wolfville Formation were eroded more easily than the more resistant rock of the Horton Group and other sedimentary rocks on either side of the Salmon River Valley. Some valleys were deepened by glacial erosion. During their retreat, the glaciers left a mixture of sand and gravel of varying thickness (glacial till) over most of the Truro region.

Photos: (Not presently available)

Cenotaph. The figure and columns of the memorial have been intricately carved from fine grained, grey granite. The name bearing black slabs are carved from a hard igneous rock called gabbro. (Photo: M. Devanney).

Truro Police Station. This building is composed of (1) brick made from clay; (2) slate roofing tiles; (3) sandstone and (4) granite. Blocks of slate from Wittenburg; (5) surround the garden areas. (Photo: B. MacBournie)

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Building Materials - Another Dimension For Rocks

The use of stone for building construction began in the 1700s in the Truro area. In recent years, the increasing interest in building stone has prompted geologists with the Department to find and evaluate additional stone resources in the Province as part a CNSMDA project.

Many of the older buildings on Prince Street are constructed with sandstone and brick. Most of the sandstone used on Prince Street was produced from quarries at Wallace and, to a lesser extent, Amherst. Its use was encouraged by the nearby location of these quarries and the ease with which the stone could be shaped and dressed or carved. Brick was a popular building material because the raw material, clay, was readily available throughout the Province. Bricks and tile products are made today at Lantz from clay and shale quarried at Lantz, Milford, Shubenacadie and New Glasgow.

Granite's hardness and resistance to weathering has made it attractive to cut and work. These characteristics have prompted granite to be used for special decorative work (Cenotaph and Prince Street School) and durability (front steps and curbstones on Prince Street). Local sources of grey granite in Nova Scotia were quarries at Nictaux, Shelburne, Queensport and in several locations in Halifax County. At present the quarry at Nictaux, near Digby, is the only granite operation.

The sand and gravel associated with the glacial till that blankets the Truro area is a valuable resource. Sand and gravel operations provide material for road fill, crushed rock for concrete and asphalt production and many other applications. Some of the region's sand and gravel operations have ceased production and are now reclaimed for other uses. An example of reclamation is the Kiwanis Park, a former gravel pit, at the corner of Juniper and Robie Streets.

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Other Mineral Resources of Central Nova Scotia

The large deposits of iron ore discovered at Londonderry in 1849 were developed into a well established iron and steel industry by the 1870s. Other metallic minerals that have been mined in the Truro region include antimony at West Gore and manganese at Tennycape and Manganese mine. Gold was discovered in 1858 and mined at many localities south of Truro (West Gore, Rawdon, Gays River, Renfrew, Elmsdale and Upper Stewiacke). Lead was mined at Smithfield, copper-lead-zinc-silver at Walton, and lead-zinc at Gays River.

The metallic ore at Walton was discovered beneath a large deposit of barite. The former Walton Mine was the world's largest barite mine. Today, pharmaceutical grade barite is mined at Brookfield and processed at Debert.

Limestone for cement is quarried at Brookfield. Milford is the site of the largest gypsum quarry in the western world.

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For More Information

You may enjoy the beauty of Victoria Park with the self-guided walking tour brochure entitled ***Rocks, Minerals and Landforms of Victoria Park, Truro.*** The brochure is available at either the Truro Parks and Recreation Commission, Truro Tourist Information Centre (Prince Street) or the Department of Mines and Energy, Stellarton or Halifax

For further information about the mineral resources, geology, mining or other walking tours, contact:

Nova Scotia Department of Natural Resources Library

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Photos: (Not presently available)

Salmon River Valley. The Salmon River meanders through a valley of soft sedimentary rocks (sandstone and shale) of the Wolfville Formation. The upland areas to the north and south are composed of more resistant, older rock. (Photo: H. Donohoe).

National Bank of Canada. Four different types of building stone were used in the construction of this building: (1) gabbro, (2) Spanish granite and two types of limestone, (3) fine grained limestone from Indiana and (4) coarse grained, fossiliferous limestone

from Queenston, Ontario. The fossils visible in the foundation (inset) include crinoid stems, colonial corals and brachiopods. (Photo: H. Donohoe, inset photo: M. Devanney).

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Walking Tour Stops

Stop 1. Town Civic Building, 730 Prince Street:

The polished, grey granite cornerstone was laid by the Governor General, the Duke of Connaught, in 1912. The building is constructed of red pressed brick from Quebec and 300 m.y.o. carved sandstone trim from Wallace. The "salt and pepper" granite of the steps has few xenoliths (fragments of pre-existing rock).

Stop 2. Truro Police Station, 695 Prince Street:

Completed in 1884, the building housed the Town's third post office until 1961 when it became the police station. The building is constructed largely of red brick laid in the stretcher bond pattern. Tan to olive green sandstone believed to be from Wallace is intricately carved around the entrances. The building has a coursed rubble foundation (a mixture of uncut rock laid in layers). Each pitch of the grey slat roof is flashed with copper that has weathered to the green mineral, malachite. The grey granite steps have some xenoliths. The greenery in front is surrounded by blocks of slate from Wittenburg, Colchester County.

Stop 3. First United Church, corner, Loren and Prince Streets:

The first United Church formerly the First Presbyterian Church, was completed in 1916. It is constructed of red brick, probably made locally, laid in the common bond pattern. The sandstone used in the foundation and trim is probably from Wallace. Two sandstone columns stand adjacent to the carved sandstone surrounding the main entrance. Bedding (layers in the rock) is visible in the columns. The surface of the copper steeple has been weathered to malachite.

Stop 4. St. James Presbyterian Church, 629 Prince Street:

The church cornerstone was laid in 1928 and the plaque above commemorates the centennial of the formation of the Presbyterian church in Canada (1875). The building is composed of rough cut, grey to olive grey sandstone blocks from Wallace. The sandstone exhibits bedding, exfoliation (peeling) and black staining from air borne pollution.

Stop 5. Cenotaph - Truro War Memorial, 754 Prince Street:

The cenotaph, designed and sculpted by H. W. Tingley, was dedicated in 1926. The base and figure of the solider have been carved from unpolished, fine grained, grey granite. The black gabbro slabs bearing the soldiers' name are from Sweden.

Stop 6. Prince Street School, 754 Prince Street:

Following its completion in 1903, this building was the home of the Colchester Academy; later it became a library and museum. The building is constructed of red brick laid in the common bond pattern. The pink sandstone foundation is from Wallace and is overlain by a continuous course of tan sandstone. The sandstone exhibits some exfoliation. The polished red granite in the columns is probably from St. George, New Brunswick (390 m.y.o.). The grey granite of the steps resembles Nova Scotia granite because of the texture and presence of xenoliths. The bottom granite step has large feldspar crystals called "dents de cheval."

Stop 7. Bank of Nova Scotia, 7 Inglis Street:

When this building was completed in 1908, it included a third floor janitor's apartment which was later removed and used for an expansion in 1954. The building, which is constructed of 300 m.y.o. red sandstone from Amherst, was given a coat of red latex paint in 1988.

Stop 8. Saint John the Evangelist Anglican Church, corner, Church and Prince Streets:

This church, which was built on the former site of a wooden church in 1881, invokes an image of 19th century rural England. The tower, completed in 1904, houses a chime of ten bells from New York. The walls are constructed predominately of tan sandstone used in combination with pink sandstone. Some of the foundation blocks show layers of quartz pebble conglomerate. The sandstone material is probably from the Wallace area. Some of the stone has been damaged by exfoliation and pollutants. The roof is shingled with grey and green slate tiles. Kaulbach Hall (located behind the church) was also built with Wallace sandstone and was completed in 1938.

Stop 9. National Bank of Canada, 827 Prince Street:

This building was constructed in 1947 on the former site of the New Merchant's Bank and housed the Royal bank until 1981. Two varieties of limestone are used in its construction - the walls are cladded with fine grained Indiana limestone (340 m.y.o.) while the base is a coarser limestone (420 m.y.o.) from Queenston, Ontario with abundant fossils (brachiopods, crinoid stems, corals, worm burrows). The grey granite of the steps is from Spain. The doorway is surrounded by a dark, coarse grained igneous rock called gabbro, probably from either Norway or Quebec (both sources would be over 1 billion years old).

Maps: (Not presently available)

Building Stones of Prince Street.

Map Showing Mineral Resources and Geology of Truro Region.

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